



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/735,517

12/11/2003

Gernot Eckstein

I0046.0162

1592

38881

7590

07/08/2009

DICKSTEIN SHAPIRO LLP
1177 AVENUE OF THE AMERICAS 6TH AVENUE
NEW YORK, NY 10036-2714

EXAMINER

JOHNSON, CARLTON

ART UNIT

PAPER NUMBER

2436

MAIL DATE

DELIVERY MODE

07/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/735,517	Applicant(s) ECKSTEIN ET AL.	
	Examiner CARLTON V. JOHNSON	Art Unit 2436	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3-2-2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Pre-Appeal Request filed on 3-2-2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.
2. Claims **1, 3, 5 - 10** are pending. Claim **5** has been amended. Claims **2, 4** have been cancelled. Claims **1, 3** are independent. This application was filed on 12-11-2003.

Response to Remarks

3. Applicant's arguments have thus been fully considered but are moot due to new grounds or rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1, 3, 5, 7 - 10** are rejected under 35 U.S.C. 103(a) as being anticipated over **Schulz et al.** (US patent No. **4,905,176**).

Art Unit: 2436

With Regards to Claim 1, Schulz discloses a method of preventing the external detection of operations in a digital integrated circuit (Schulz col. 5, lines 67 - col 6, line 1: position circuit on an integrated circuit chip) comprising an asynchronous circuit (Schulz col. 2, lines 27-31: asynchronous serial number output), comprising time-varying a supply voltage of said asynchronous circuit to time-shift the execution time of operations within said asynchronous circuit; wherein the time variation of said supply voltage takes place in a random way. (Schulz col. 2, lines 47-54: time varying power supply voltage; frequency of operation causes a non-periodic serial random number sequence; col. 8, line 65 -col. 9, line 40 disclosing power supply voltage randomly varies with time and applying delay (time-shift) due to the randomly varying supply voltage)

With Regards to Claim 3, Schulz discloses a digital integrated circuit comprising: an asynchronous circuit (Schulz col. 2, lines 27-31: asynchronous serial number output), and means for time-varying a supply voltage of said asynchronous circuit to time-shift the execution point of operations within said asynchronous circuit, wherein said means for time-varying said supply voltage comprising a random number generator. (see Schulz col. 2, lines 47-54: frequency of operation; random number generator causes a non-periodic serial random number sequence to be produced; col. 8, line 65 -col. 9, line 40 disclosing power supply voltage randomly varies with time and applying delay (time-shift) due to the randomly varying supply voltage)

With Regards to Claim 5, Schulz discloses the digital integrated circuit according to

Art Unit: 2436

claim 3, wherein said means for time-varying said supply voltage comprises a noise voltage source driving said random-number generator. (see Schulz col. 4, lines 30-36: frequency of voltage variation is produced by noises on the power supply or supply lines)

With Regards to Claim 7, Schulz discloses the digital integrated circuit according to claim 3, wherein said means for time-varying said supply voltage further comprises a voltage regulator. (see Schulz col 2, lines 47-54: varying or regulating (regulator) power supply voltages)

With Regards to Claim 8, Schulz discloses the digital integrated circuit according to claim 3, wherein said asynchronous circuit is formed for executing a coding algorithm. (see Schulz col. 8, lines 51-58: finds application in cryptography; creation of master key values used for cryptographic operations)

With Regards to Claims 9, 10, Schulz discloses the method, digital integrated circuit according to claims 1 and 3, wherein the asynchronous circuit is a type, which performs processing without correlation to a clock. (see Schulz col. 4, lines 30-36: frequency of voltage variation is produced by noise on power supply and supply lines itself)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

Art Unit: 2436

obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim **6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Schulz** and further in view of **Read et al.** (US Patent No. **5,353,243**).

With Regards to Claim 6, Schulz discloses the digital integrated circuit according to claim 4, wherein said means for time-varying said supply voltage further comprising a random-number generator. (Schulz col. 2, lines 47-54: time varying power supply voltages; pseudo-random number generator causes a non-periodic serial random number sequence to be produced)

Niessen does not specifically disclose a digital-analog converter transforming the digital values into an analog voltage. However, Read discloses wherein a digital-analog converter transforming the digital values into an analog voltage. (see Read col. 25, lines 29-31: reference voltages are supplied by a digital to analog converter)

It would have been obvious to one of ordinary skill in the art to modify Niessen for a digital-analog converter transforming the digital values into an analog voltage as taught by Read. One of ordinary skill in the art would have been motivated to employ the teachings of Read for systems used by electronics designers to simulate the operation of electronic circuits during development and testing of electronic systems including circuits to combat attacks on integrated circuits. (see Read col. 1, lines 11-10)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlton V. Johnson whose telephone number is 571-270-1032. The examiner can normally be reached on Monday thru Friday , 8:00 - 5:00PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nasser G Moazzami/
Supervisory Patent Examiner, Art Unit 2436

Carlton V. Johnson
Examiner
Art Unit 2436

Application/Control Number: 10/735,517

Page 7

Art Unit: 2436

CVJ

June 22, 2009